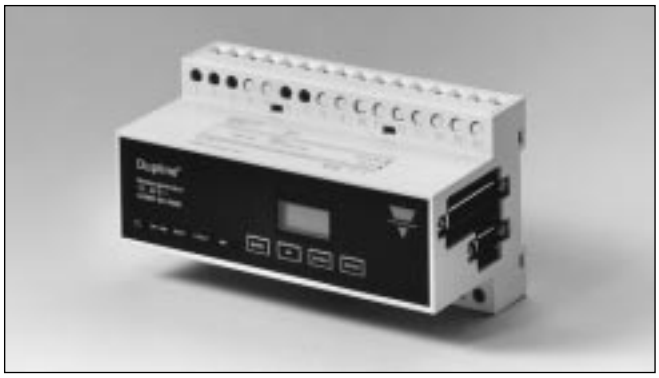
Master Channel Generator
Type G 3890 0014

Dupline®
Fieldbus Installationbus



- **Programmable channel generator**
- **Configuration based on Windows 95/98/NT software**
- **Light control functions**
- **Alarm monitoring**
- **AnaLink set-point control**
- **Rollerblind control**
- **Real-time, timer and logic functions**
- **Print-out of events with date and time tags**
- **H8-housing**
- **For DIN-rail mounting (EN 50022)**
- **AC or DC power supply**
- **Modbus-RTU interface RS 232 (only version > 2.02)**
- **Option for connecting two Dupline® Master Channel Generator Networks (only version > 2.02)**
- **Multiplex or normal mode**

Product Description

Programmable channel generator with built-in intelligent functions for light control, alarm monitoring, AnaLink set-point control, rollerblind control etc. Programming is easily performed through windows-based configuration software. A specific function with associated parameters can be assigned to each address and logic operations can be used to link the functions together.

Ordering Key

G 3890 0014 230

Type: Dupline®
H8-housing
Master channel generator
Supply

Type Selection

Supply	Ordering no.
115/230 VAC	**G 3890 0014 230**
10 to 30 VDC	**G 3890 0014 800**

Supply Specifications

Power supply	AC-Types	Overvoltage cat. III (IEC 60664)
Rated operational voltage through term. 21 & 24		
jumper term. 22 & 23		230 VAC ± 15% (IEC 60038)
jumper term. 21 & 23 and term. 24 & 22		115 VAC ± 15% (IEC 60038)
Frequency		45 to 65 Hz
Rated operational power		Typ. 7 VA/3 W
Rated impulse withstand voltage	115/230 V	4 kV
Dielectric voltage		
Supply - Dupline®		≥ 4 kVAC (rms)
Supply - Output		≥ 4 kVAC (rms)
Supply - Input		≥ 4 kVAC (rms)
Supply - Com. ports		≥ 4 kVAC (rms)
Power supply	DC-Types	Overvoltage cat. III (IEC 60664)
Rated operational voltage through term. 21 & 22		10-30 VDC
Reverse polarity protection		Yes
Rated operational power		7 W
Inrush current		1 A
Rated impulse withstand volt.		800 V
Dielectric voltage		
Supply - Dupline®		500 V
Supply - Output		200 V

Input/Output Specifications

Serial Port		RS 232
		9-pole female SUB-D
Pin assignment	T.D	Pin 2
	R.D	Pin 3
	GND	Pin 5
Dielectric voltage Com.port - Dupline®		≥ 2 kVAC (rms)
Parallel Port		Centronic
		25-pole female SUB-D
Pin assigment	Strobe	Pin 1
	Data D0-D7	Pins 2-9
	Busy	Pin 11
	Paper out	Pin 12
	GND	Pins 18-25
Dielectric voltage Com.port - Dupline®		≥ 2 kVAC (rms)
Dupline®-Output		Dupline® carrier
Output voltage		8.2 V
Current		< 100 mA
Short-circuit protection		Yes
Sequence time		
32 channels		38.6 ms
128 channels		132.3 ms
Watchdog-Output		1 NPN transistor
Function		Watchdog
Output voltage V_{DD}		≤ 35 VDC
Output current		≤ 100 mA
Output voltage drop		≤ 2 V
Off-state leakage current		≤ 100 µA
Short-circuit protection		None
Built-in protective diodes		None
Dielectric voltage		
Output - Dupline®		≥ 4 kVAC (rms)
Output - Input		≥ 4 kVAC (rms)
Inductive loads		External noise suppression required

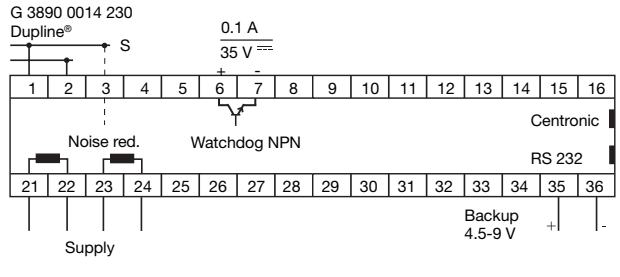
Input/Output Specifications (cont.)

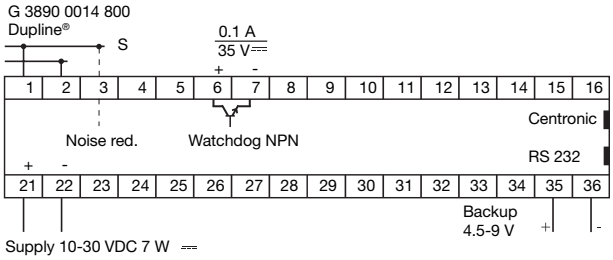
Input	Back-up supply
Function	Real-time clock
Isolated in groups of	1 x 1
Input voltage range	4.5 to 9 V
Reverse polarity protection	Yes
Rated operational current	10 to 100 µA
Input resistance	> 47 kΩ
Cable length	< 0.5 m
Dielectric voltage	
Input - Dupline® (230 V Version)	≥ 4 kVAC (rms)
Input - Dupline® (800 V Version)	500 V
Adjustment	Time, Date, Year, Day
4 tactile pushbuttons	
(Mode, Up, Down, Enter)	RS 232 functions
	LPT functions

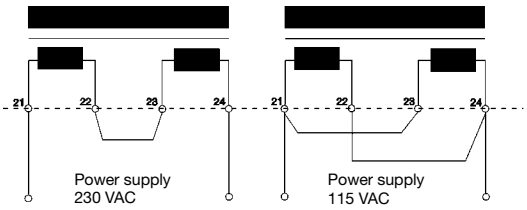
General Specifications

Real-time clock	
Accuracy	Better than ± 1 minute/month
Internal back-up time	Typ. 120 hours
Unit parameter back-up time	> 1 year
Power ON delay	< 2.5 s
Indication for	
Supply ON	LED, green
ON Line	LED, yellow
Busy	LED, yellow
Fault	LED, red
Time, date etc.	4-digit LCD display red background light
Environment	
Degree of protection	IP 20
Pollution degree	3 (IEC 60664)
Operating temperature	0° to +50°C (+32° to +122°F)
Storage temperature	-20° to +85°C (-4° to +185°F)
Humidity (non-condensing)	20 to 80% RH
Mechanical resistance	
Shock	15 G (11 ms)
Vibration	2 G (6 to 55 Hz)
Dimensions	
Material	
(see "Technical Information")	H8-housing
Weight	540 g

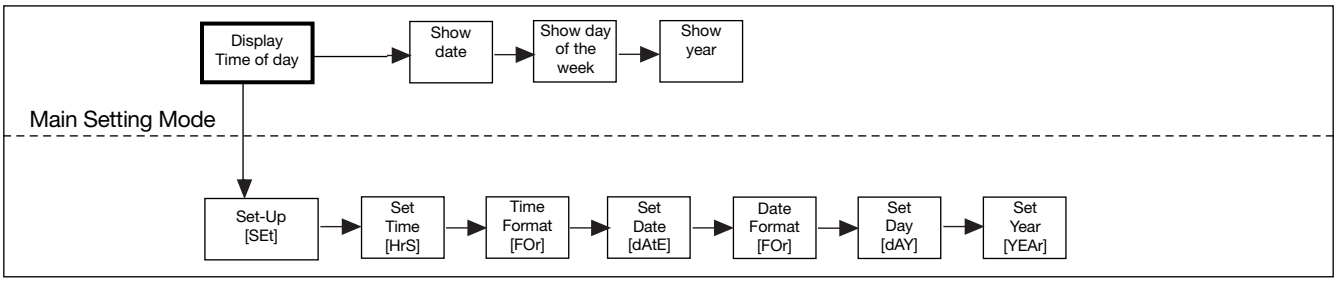
Wiring Diagrams







Key Operation Diagram



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Mode of Operation

The G 3890 0014 master generator is a programmable channel generator which is particularly well suited for building automation applications like light control, roller-blind control, temperature control, and alarm-monitoring. Through an easy-to-use windows-based configuration software, the unit can be configured to perform real-time control, logic and timer functions, ISA, water, smoke and Intruder alarm-monitoring and Code/Door lock armouring. Print-outs of time-tagged user-defined text in case of channel output changes.

Keys
In the display mode, the four front-keys are used to change the display showing time, date, day of the week, year or software revision of the master generator (Press < enter >). The keys are also used to set the time, date, day of the week, year and definition of operation and parameters of the parallel ports.

Display
The back-lighted 4-digit LCD display is used to show all the relevant information that can be changed by using the keys. If no key is pressed for 2 minutes, the display automatically shows the actual time. In case of an Error the display shows an Error code.

Back-up Terminals
In case of missing power the internal calendar and clock are supported by a super-capacitor. Under normal ambient temperature this back-up will maintain the correct date and time for typically 5 days. If longer power shutdowns can happen, an external battery of 4.5 to 9 VDC may be connected between terminal 35 (+) and terminal 36 (-).

Alarm Output Terminals
An open collector NPN-transistor output with NC function signals alarms and faults in the system. Attention by the local personnel is requested whenever this output switches off. The display and/or the LED´s gives an indication of the cause of problem.

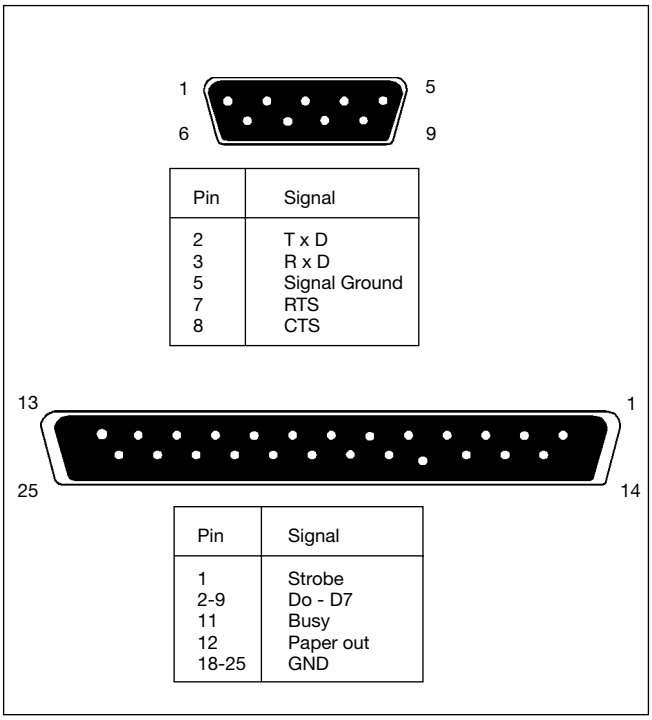
Master Generator Configuration
The master generator is as factory default configured to operate as a standard channel-generator without intelligent functions. To obtain full utilisation of the advanced features the generator has to be configured.
For configuration, the delivered software SW G 3890 0014 has to be installed on a Win 95/98/NT based PC.
This software handles all configuration of the G 3890 0014 master generator.
Configuration is done entirely on the PC, and when completed, the set-up is downloaded into the generator via the serial port. (COM1 or COM2).

Two Dupline® networks*
Two channel generators can be connected via communication cable. Thereby addresses, i.e. master commands, can be transferred from one network to the other.

Modbus-RTU*
Modbus-RTU is implemented as a function of a slave. The following Modbus function is supported; 01, 02, 03, 05, 06 and 16. All 128 Dupline® Digital channels are placed from Word no. 0 to 7. All 128 Dupline® AnaLink signals are placed in Word 100 to 17F.

*** Rev. 2.02 or higher required**

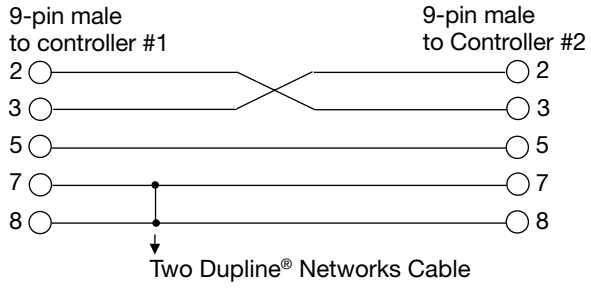
Pin Assignment

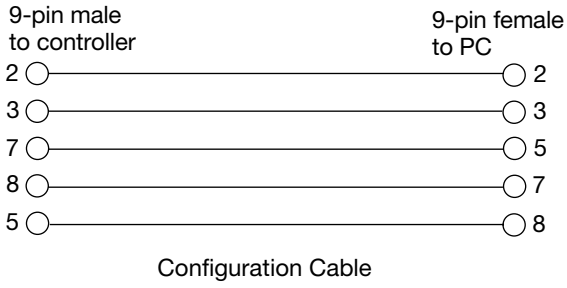


Pin	Signal
2	T x D
3	R x D
5	Signal Ground
7	RTS
8	CTS

Pin	Signal
1	Strobe
2-9	Do - D7
11	Busy
12	Paper out
18-25	GND

RS 232 Cables





Modbus-RTU Memory Mapping

Function Code 03 Read Register	**Data Word**	
Word address	MSB...HB	LB....LSB
0000	B8...B1	A8...A1
0001	D8..D1	C8..C1
0007	P8..P1	O8..O1
100	AnaLink A1	
101	AnaLink A2	
17F	AnaLink A8	
Function Code 06,16 Write Register		
Word Address	MSB...HB	LB....LSB
0000	B8...B1	A8..A1
0001	D8..D1	C8..C1
0007	P8..P1	O8..O1

Function Code 01, 02, 05	**Dupline® Channel**
Address	
0000	A1
0001	A2
007F	P8

Scope of Supply

1 x Master Channel Generator	G 3890 0014 ..
1 x User manual	MAN G 3890 0014 ENG
1 x RS 232 cable	RS 232-9 M/9 F
1 x Configuration software	SW G 389XX14 version 2.00

Accessories

User manual	MAN G3890 0014 ENG
RS 232-9 M/9 F	

For further information refer to "Accessories".

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